

## **VIII.**

### **Implementing and Funding *The Galveston Bay Plan***



# Implementing and Funding *The Galveston Bay Plan*

## *The Galveston Bay Plan* Galveston Bay National Estuary Program

### OVERVIEW OF IMPLEMENTATION AND FUNDING

	<i>Page</i>
<i>The Galveston Bay Program of The Texas Natural Resource Conservation Commission</i> .....	305
<i>The Galveston Bay Council</i> .....	311
<i>Who Will Do What?</i> .....	313
<i>How Much Will The Galveston Bay Plan Cost?</i> .....	318
<i>Financing The Galveston Bay Plan</i> .....	323
<i>Common Goals For The Bay: Consistency</i> .....	325
<i>Transition From Planning To Implementation</i> .....	329

This chapter describes implementation of *The Galveston Bay Plan* under a newly-created Galveston Bay Program (GBP) of the Texas Natural Resource Conservation Commission (TNRCC). The GBP office of the TNRCC will be located in the bay area. *The Galveston Bay Council* (GBC) comprised of natural resource agencies, stakeholders, and citizens involved in bay use and management will provide advice to the GBP on issues related to *Plan* implementation.

### THE GALVESTON BAY PROGRAM OF THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Several management strategies were considered for implementation of *The Galveston Bay Plan*. The Galveston Bay National Estuary Program (GBNEP) Management Conference evaluated three such strategies: the Texas Natural Resource Conservation Commission (TNRCC), the Texas General Land Office (GLO), and the creation of a new independent management organization created by the Texas Legislature.

During development of *The Galveston Bay Plan*, creation of a new, independent entity (first called the "Galveston Bay Authority," and later the "Galveston Bay Council") was initially identified as the preferred alternative. Subsequently, numerous focus group discussions with local government officials revealed little support for any approach that would: 1) create a totally new government structure with any sort of authority over local actions; or 2) involve funding or collection of funds by local governments, (e.g. taxes or fees). In general, local officials did not find fault with *The Plan's* initiatives; rather they were concerned with funding and the management structure for implementation. Funding of the program is closely tied to the management structure of the implementing organization. Funding of an independent entity would require passage of enabling legislation which identifies a funding source such as general revenue, a fee, or tax. In contrast, funding of an agency program would occur through that agency.

As a result of the involvement by local officials and further deliberation by the GBNEP Management Conference, the TNRCC was identified as the preferred implementing organization. Several factors were considered in the Management Conference decision:

- Most state initiatives in *The Plan* fall under the jurisdiction of the TNRCC. TNRCC is the regulatory authority for the majority of the state-initiated actions and will provide a major share of the funds for implementation of *The Plan*. Initiatives estimated to cost about \$7.5 million over the first five years will be incurred by the TNRCC, compared to some \$4.5 million for Texas Parks and Wildlife Department (TPWD), and \$1.5 million for GLO. The costs incurred by other state agencies were comparatively smaller amounts.
- The National Estuary Program is a Water Quality Act program, and all other programs under the Act are under TNRCC and SWCB jurisdiction at the state level.
- The recent consolidation of several natural resource management programs under the TNRCC by the Texas Legislature has given this agency a broad role for management of aquatic and marine ecosystems – compatible with the ecosystem approach of *The Plan*. It promotes balanced use of the state's natural resources while avoiding unnecessary adverse harm to the resources.

## **THE TNRCC GALVESTON BAY PROGRAM**

### **Geographic Coverage of the Galveston Bay Program**

Geographically, the GBP will concern itself with the lower Galveston Bay watershed within the following five counties: Brazoria, Chambers, Galveston, Harris, and Liberty. While Galveston Bay's watershed extends north nearly to Oklahoma (including Dallas and Fort Worth), scientific work has shown that influences from the upper watershed are minor in comparison to influences in the lower watershed downstream from Lake Livingston (on the Trinity River) and Lake Houston (on the San Jacinto River) as shown in Figure I-1.



## **Funding the Galveston Bay Program**

Funding needs for the GBP will be \$2.0 million per year, of which half is ear-marked as seed money to match funds from outside the bay region for *Plan* implementation. Of the \$2.0 million base program funding, \$1.5 million will be state funds and \$0.5 million federal. Beyond the base program, overall implementation of *The Galveston Bay Plan* is expected to cost some \$36.5 million over a five-year period, with annual costs dependent upon the specific implementation schedule outlined in this document. A five-year cycle of plan evaluation and re-direction will assure implementation continues to effectively address problems in Galveston Bay. Although funding from many of the regulatory agencies involved in the GBP cannot be formally committed over long time periods, there has been an informal commitment from these agencies to support the Program on a long-term basis.

## **Staffing and Duties of the Galveston Bay Program**

A Galveston Bay Program Director and staff of up to 15 TNRCC employees will oversee Plan implementation. The Program Director will be appropriately positioned within the TNRCC to have access to policy makers and top level managers in outside agencies and may report directly to the Executive Director of the TNRCC.

In addition to coordinating implementation activities among the many natural resource and public agencies, the GBP will also provide technical assistance and will be directly responsible for the implementation of certain *Plan* actions. The composition of the staff will reflect *The Plan's* initiatives, with expertise in wetlands and estuarine habitats, coastal resource conservation, non-point source pollution issues, water quality, public health, and public education. Work of the staff will also include support actions such as regional monitoring initiatives, research, and fostering continued public participation in establishing bay management policy.

The duties of the GBP staff will include the following :

- Acquire, manage and disperse funds to implement *The Plan*
- Review federal, state and local projects in an open process for consistency with *The Plan*
- Provide for coordination with the Texas Coastal Management Program (CMP) and the Coastal Coordination Council (CCC)
- Provide for coordination and communication among state and federal resource agencies for the many cross-jurisdictional issues
- Monitor implementation of specific actions by *The Plan's* partners
- Identify and communicate bay improvements to agencies, stakeholders, and the public, and redirect *The Galveston Bay Plan* where improvements lag
- Conduct public outreach and education to increase public awareness of Galveston Bay, and to advocate conservation of the estuary
- Evaluate the impacts of proposed actions on cultural resources and areas of historical significance

### Focusing Agency Efforts

A key aspect of the GBP's work will involve guiding the efforts of federal, state, and local natural resource agencies, organizations and the public. These activities will include:

- Informing federal, state, and local agencies and private interests of their responsibilities under *The Plan*
- Maintaining implementation commitments from policy officials and agencies
- Promoting interagency cooperation through Memoranda of Understanding
- Maintaining communication among all involved with or affected by implementation actions
- Staffing the Galveston Bay Council

### Securing Funds for Implementation

The GBP will acquire, manage, and disperse public and private funds for *Plan* implementation. Methods for obtaining funds will include:

- Applying directly for federal and state grants to implement specific projects
- Assisting agencies, local governments, and others in securing grant funds for implementation
- Working with appropriate funding agencies and non-profit foundations to consider *The Galveston Bay Plan* priorities in their funding decisions, through delineation of "hard" funding for existing core programs, as well as leveraging outside funds
- Working to secure private sponsorships, donations, and in-kind services to support *Plan* implementation

### Consistency Review

Federal, and potentially state, and local projects will be reviewed for consistency with *The Plan* by the GBP. The GBP will review federal assistance and development projects for consistency with *The Plan* in accordance with the provisions of Section 320 of the Clean Water Act (CWA). This is a "review and comment" function delegated to the Program by the GBNEP Management Conference upon approval of *The Plan* by the EPA. GBP policies and procedures for federal consistency review are described in detail in The Federal Consistency Report for the Galveston Bay Estuary.

The GBP may also provide input to the Coastal Coordination Council (CCC) in determining consistency of certain state and local projects on the Texas Coastal Management Program (CMP). The CCC plans may adopt all or portions of the enforceable policies of *The Plan* as a Special Area Management Plan (SAMP) within the CMP. If *The Plan* is adopted as a SAMP, applicable state actions will also be reviewed for consistency with the provisions of *The Plan*. The GBP would participate in the CMP state consistency review process by providing comments to the CCC on actions subject to the CMP that occur within the Program's geographic coverage. The CCC will make the final consistency determination. Note that implementation of *The Galveston Bay Plan* will still occur even if *The Plan* is not adopted as a SAMP.

The Galveston Bay Council may appoint a committee to provide input on consistency reviews. GBP staff will work closely with the GLO to "pre-review" projects for *Plan* consistency whenever possible. This "pre-review" will enable applicants to address potential impacts on

the bay early in the applicant's planning process, therefore minimizing inconsistencies with *The Plan*.

If federal CZM status is granted to the State of Texas, consistency review would also apply to federal permits and licenses (under CWA consistency, it only applies to federal agency actions and funding assistance programs). This designation would add a powerful implementation tool, since federal permits for discharges of wastewater, stormwater, and dredged materials, among others, would need to be consistent with *The Plan*. However, consistency review for federal permits under CZM is not the sole implementation strategy for any of *The Plan's* actions.

#### Monitoring and Evaluation

Activities conducted by the GBP will also include tracking implementation efforts of other agencies, monitoring the progress of *Plan* implementation, and compiling the results. Ambient environmental monitoring will be the primary method of determining the effectiveness of *Plan* implementation actions. The Galveston Bay Monitoring Plan provides the basis for a long-term coordinated strategy for monitoring key environmental conditions in the bay and lays out the approach that will be used to collect this data.

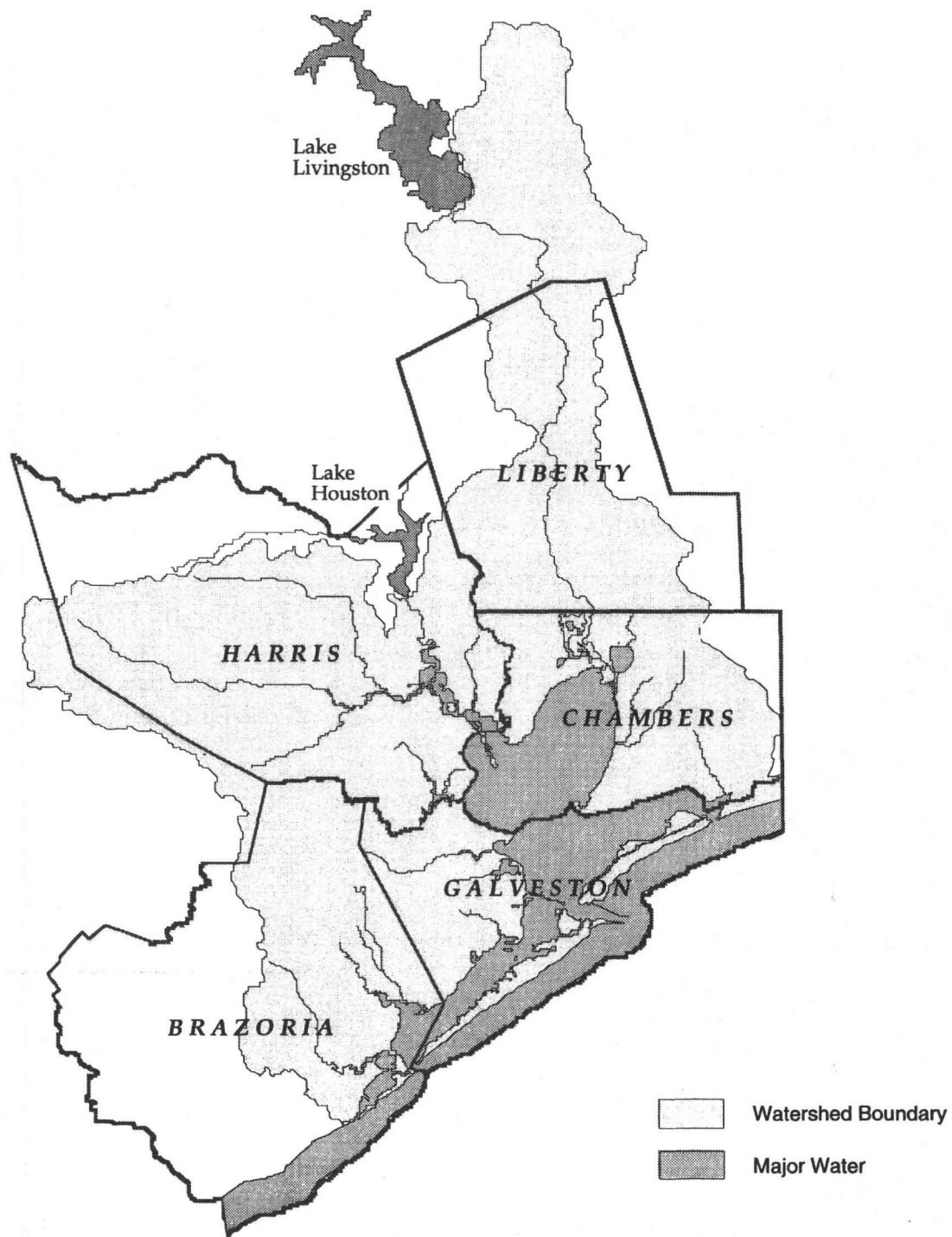
Completed actions described in *The Plan* will be evaluated with respect to monitored data to determine the effectiveness of these initiatives in achieving the goals and objectives of *The Plan*. The GBP will review all implementation actions initiated, underway, or completed, and assess their effectiveness in improving identified bay problems. On a biennial basis, an overall GBP progress report, including a summary of actions and monitored results, will be submitted to the Governor, the Texas Legislature, and to the public.

#### Plan Revision

The results of the evaluation to determine *The Plan's* effectiveness will be used to modify *The Plan*, or re-direct resources, if necessary, to ensure that action initiatives are producing the intended benefits and represent an effective use of funding. The Galveston Bay Council will approve any revisions to *The Plan*. Input for revisions of *The Plan* will also be received from scientists, resource managers, and the public at each biennial State of the Bay Symposium. The Symposium will be convened every other year prior to the biennial report to the Governor and the Texas Legislature. Based on all these sources of information, *The Plan* will be formally revised every five years.

#### Public Education and Outreach

Public outreach and education activities will be conducted by the TNRCC GBP to increase public awareness of *The Plan* and the Galveston Bay Estuary system. The GBP will serve as the regional information clearinghouse for the Galveston Bay ecosystem, and will conduct public meetings to discuss important issues related to management of the Bay.



Adapted from HGAC

**FIGURE I-1. Geographic Coverage of the Galveston Bay Program.**

Education and outreach activities of *The Plan* will occur within the bay's watershed downstream from Lakes Houston and Livingston. Outreach efforts may include publications, educational events, electronic media, a speaker's bureau, and response to information calls. Information made available to the public will include:

- Results of basic and applied research
- Monitoring findings
- Public health and safety information
- Action plan progress reports and agency performance evaluations
- Regulatory and funding information
- Public education materials

The biennial State of the Bay Symposium will be an important opportunity for public participation. The targeted audience of the Symposium will include elected officials, natural resource and funding agency managers, local governments, the scientific community, industry, small businesses, non-profit and volunteer organizations, and the general public.

#### Advocacy

The GBP and the Galveston Bay Council will play a major role in advocating Galveston Bay management initiatives at the federal, state, and local government levels, as well as in the private sector. This advocacy role will be to promote legislation, regulations, and funding necessary to support the implementation of *The Plan* and to enhance conservation efforts for the Galveston Bay Estuary system.

### **THE GALVESTON BAY COUNCIL**

Diverse concerns for habitat and wildlife, competing resource uses, water quality, and human health cannot be adequately addressed without the involvement of multiple natural resource agencies and bay stakeholders. To achieve success, problems of a regional nature - those affecting the entire ecosystem - will require regionally coordinated actions. This need for cross-jurisdictional coordination was emphasized in a recent evaluation of current bay governance entitled *Framework for Action: Galveston Bay Management Evaluation*. Because of the comprehensive nature of *The Plan*, the creation of a *Galveston Bay Council* to advise the GBP is an important part of implementation. The Galveston Bay Council (GBC) will help the GBP provide a continuing focus on Galveston Bay issues and coordination among the implementing organizations. The GBC will have a strong advisory role; not merely perfunctory. Figure I-2 presents examples of existing environmental programs that will be focused towards achieving the goals and objectives of *The Plan*.



The GBC will consist of representatives of federal, state and local natural resource agencies, the research community, local governments, citizens groups including representatives from low-income and minority communities, and other Galveston Bay stakeholders (see Table I-1). One representative of each interest listed in Table I-1 will serve on the GBC. The GBC will select its own Chair on an annual basis, meet at least quarterly, and perform the following functions:

- Provide a forum for technical and stakeholder review and input during *Plan* implementation
- Maintain agency commitments to implement *The Galveston Bay Plan*
- Advise TNRCC staff during preparation of progress reports, evaluations and *Plan* updates
- Authorize and make appointments to advisory committees as necessary
- Assess the success of the action plans and initiate revisions
- Address legislative issues and make recommendations to the legislature
- Set annual priorities for the implementation of the action plans by advising the TNRCC

The GBC, as the implementation committee for *The Plan*, will serve in a similar capacity to the current Management Conference of the Galveston Bay National Estuary Program. The GBC will assume the purposes of the Management Conference with respect to monitoring the effectiveness of actions taken pursuant to *The Plan* and review all federal financial assistance programs and federal development projects in accordance with the provisions of Section 320 of the Clean Water Act.

### *The Galveston Bay Plan*

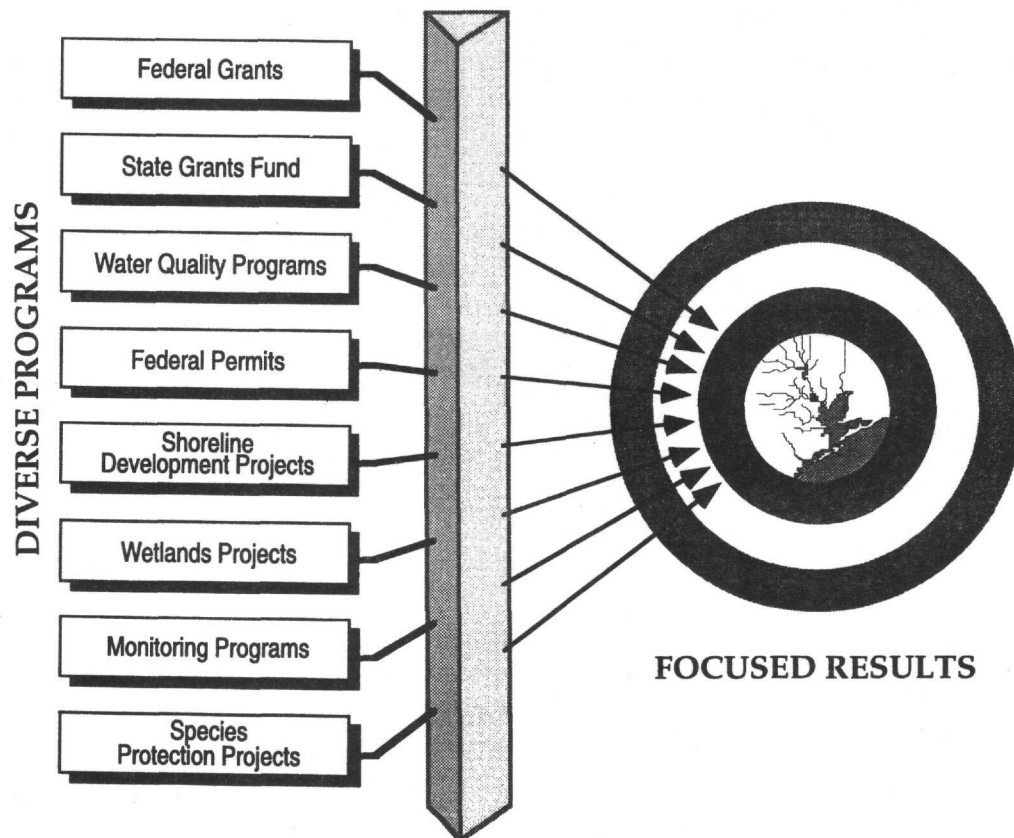


FIGURE I-2. *The Galveston Bay Plan* will Focus Existing Environmental Programs

### **Subcommittees of the Galveston Bay Council**

The GBC will have the ability to form subcommittees or work groups as necessary to accomplish its advisory duties to the GBP. These subcommittees will be established on an as-needed basis. For example, a Technical Advisory Committee may be formed to advise the GBC on technical and scientific issues such as monitoring and research. A Consistency Review Committee may be established to participate in both federal and state consistency reviews or CMP pre-review activities involving state agencies. Temporary special-purpose committees may also be established, for example, to help manage the State of the Bay Symposia.

### **WHO WILL DO WHAT?**

Because of the comprehensive nature of *The Plan*, successful implementation will depend on coordinated actions by local, state, and federal agencies and other organizations responsible for implementing specific initiatives. The Galveston Bay Program (GBP) is responsible for this coordination, utilizing the advice of the Galveston Bay Council (GBC). The roles of the major partners in bay management under *The Plan* are summarized below.

#### **The Federal Role**

Many of the actions described in *The Galveston Bay Plan* involve federal activities that have been previously planned or are currently in progress. *The Plan* has included these activities to reaffirm their importance to Galveston Bay and will provide a framework for coordinating actions among federal agencies. Federal natural resource agencies can use *The Plan* in making budget decisions by aiding prioritization of new management initiatives. Implementation actions among federal agencies participating in *Plan* activities include:

- Provide adequate staff for the federal regulatory, enforcement, monitoring, and research activities identified in *The Plan*
- Develop or tailor regulations, standards, and policies to meet the management needs identified in *The Plan*
- Provide funding for *Plan* implementation activities
- Prioritize *Galveston Bay Plan* actions for agency operating budgets and grant programs
- Develop Memoranda of Understanding between federal and state natural resource agencies to better coordinate environmental protection efforts

Federal agencies will also play specific roles in a number of *The Plan's* actions. In Habitat Protection, for example, the U.S. Army Corps of Engineers (Corps) will lead efforts to implement a coordinated regulatory strategy through a Memorandum of Understanding between federal and state agencies now involved in the review of wetlands-related permits. The Corps will promote the beneficial use of dredged materials to restore and create wetlands in the Galveston Bay Estuary. The U.S. Fish and Wildlife Service (USFWS) will play a leading role in the acquisition and restoration of wetlands called for in *The Plan*.

The U.S. Environmental Protection Agency (EPA) will also play a very important role in implementing *The Plan's* actions. EPA will be at the forefront of many of *The Plan's* water quality initiatives, such as issuing NPDES stormwater permits. EPA will also issue administrative orders, as needed to require cities to correct by-pass and overflow problems associated with municipal wastewater collection and treatment systems.

TABLE I-1. Galveston Bay Council Representatives

Type of Organization	Interest Represented
<b>Federal Agencies:</b>	U.S. Coast Guard U.S. Army Corps of Engineers Environmental Protection Agency U.S. Fish and Wildlife Service U.S. Geological Survey National Marine Fisheries Service Soil Conservation Service
<b>State Agencies:</b>	Texas Department of Agriculture Texas General Land Office Texas Railroad Commission Texas Department of Health Texas Department of Transportation Texas Natural Resource Conservation Commission Texas Parks & Wildlife Department Texas Soil and Water Conservation Board Texas Water Development Board
<b>Regional/Local Governments:</b>	Gulf Coast Waste Disposal Authority Houston-Galveston Area Council Port of Houston Authority City of Houston Large Local Governments (populations >500,000) Medium Local Governments (populations 25,000-500,000) Small Local Governments (populations < 25,000) Trinity River Authority San Jacinto River Authority
<b>Environmental/Citizen's Groups:</b>	Galveston Bay Foundation Gulf Coast Conservation Association Citizens-at-Large League of Women Voters Low-income Community Representatives Minority Representatives Other Conservation Organizations
<b>Private Sector:</b>	Greater Houston Partnership Utilities Galveston County Council of Chambers Industry East Harris County Manufacturer's Association Marinas Commercial Fisheries
<b>Research/Academia:</b>	Major Universities Sea Grant Program

Adapted from HGAC



The primary tool for ensuring federal compliance with *The Plan* will be consistency reviews conducted in an open process by the GBP with input from the Galveston Bay Council. Federal grant programs and development projects with the potential to affect the Galveston Bay Estuary will be reviewed by the GBP under the provisions of Section 320 of the Clean Water Act to determine whether the programs or projects are consistent with the goals and objectives of *The Plan*.

## **The State Role**

### Texas Natural Resource Conservation Commission (TNRCC)

The success of *The Plan* will depend directly upon both active state agency participation in the GBC and upon fulfillment of commitments concerning *The Plan's* specific initiatives. The TNRCC's role will be somewhat unique by virtue of the predominance of TNRCC initiatives in *The Plan*, and because the GBP will be sponsored by the TNRCC. The TNRCC will have the leading role in implementation of *The Plan* through the establishment and funding of the GBP. Key implementation steps for the TNRCC include:

- Establish and fund the Galveston Bay Program
- Working with the guidance of the Galveston Bay Council, submit *The Plan* to the Coastal Coordination Council (CCC) for designation of *The Plan* as a SAMP
- Pursue assumption of the NPDES program from EPA
- Develop appropriate water quality standards for Galveston Bay management initiatives
- Adopt a watershed approach to water quality management
- Develop non-point source pollution management programs for smaller cities

### Coastal Coordination Council

Many of the state environmental programs operating in the Galveston Bay Estuary will be coordinated through the Texas Coastal Management Program (CMP). The Coastal Coordination Council (CCC) has recently proposed rules for the CMP that will be implemented in 1995. After the rules are in effect, state agency grants, permits and development activities must be consistent with the applicable goals, objectives, and policies of the CMP.

The CMP recognizes that specific coastal areas have unique values of ecological, commercial, recreational, industrial, and aesthetic importance. These specific areas require special policies for environmental protection established in the form of a Special Area Management Plans (SAMPS). The CCC may adopt as a rule, all or a portion of the enforceable policies of *The Plan* into the CMP as a SAMP. The CCC will review state actions for consistency with those adopted enforceable policies. For the purposes of the CMP, enforceable policies are those elements of *The Plan* which are: 1) agreed upon by consensus as being appropriate benchmarks for consistency review, and 2) are enforceable under existing laws and regulations. Under state law, the CCC will make the final consistency determination, although the GBP and GBC will provide input. Implementation of *The Galveston Bay Plan* will still occur regardless of its adoption as a SAMP.

In conjunction with approval and implementation of the CMP, Texas is also seeking acceptance into the federal Coastal Zone Management (CZM) program. If Texas is accepted into the federal CZM program, the range of programs covered under consistency review could be further expanded to include federally-issued permits. The GBP would have the opportunity to review the federal permits and provide comments to the CCC. The final decision regarding consistency of federal programs would be made by the CCC.

#### Other State Agencies:

In addition to the TNRCC and the CCC, other state agencies will also be actively involved in *Plan* implementation. Their roles will be to:

- Participate in the Galveston Bay Council
- Help develop (through the Galveston Bay Council) any enforceable policies for adoption of *The Galveston Bay Plan* as a SAMP
- Establish new funding sources for habitat and species protection, and public health and safety programs
- Provide adequate staff for the regulatory, enforcement, monitoring, and research activities identified in *The Plan*
- Tailor regulations and policies to fit the management needs identified in *The Plan*
- Develop Memoranda of Understanding among federal and state natural resource agencies to better coordinate environmental protection efforts
- Assist in the education of bay users and the public on stewardship of the bay ecosystem

#### **The Local Government Role**

There are five counties, 97 cities, and hundreds of special districts, authorities, and other units of government in the bay's lower watershed in the area covered by *The Plan*. While local governments are listed as lead agencies on relatively few of *The Plan's* actions, their participation will be critical to its success. *Plan* implementation will also require a significant expenditure of local government resources and changes in certain areas of their operations. Major local government implementation roles will include:

- Compliance with federal and state orders to improve wastewater collection and treatment systems
- Compliance with federal and state requirements to manage NPS pollution from stormwater runoff
- Voluntary incorporation of NPS management practices into development guidelines, regulations and building codes
- Incorporation of habitat protection provisions into development guidelines and regulations and tax abatement programs
- Participation in shoreline management planning and development of land use guidelines and regulations
- Education of the public on methods to reduce residential pollutant loadings and reduce water consumption

Many of *The Plan's* initiatives can only be effectively implemented through local plans, ordinances, and policies affecting construction and development. This is particularly true in

the management of non-point sources of pollution. Lessons learned from the Houston/Harris County stormwater management program under federal NPDES permit requirements, along with the results of state-funded pilot studies will be closely evaluated by EPA, TNRCC, and GBP in the design of cost-effective local stormwater management programs. The GBP will also encourage local governments to voluntarily adopt NPS management practices which may forestall the need for additional regulatory programs in the future. Results of local program evaluations will be incorporated into a manual of NPS Best Management Practices (BMPs) specifically tailored for the Galveston Bay Estuary.

Habitat protection, erosion, and public access to the bay in shoreline development projects are other issues affecting local governments. Shoreline development plans are increasingly being established by shoreline communities in the region; however, much of the area surrounding the bay is unincorporated. The GBP will offer assistance to local governments in the development of shoreline management programs beneficial to local economies. Unincorporated areas generally do not have ordinance-making authority at the county level. A legislative change may be required to give certain counties ordinance-making authority for the unincorporated areas of the bay.

### **The Role of Stakeholders**

There are many *stakeholders* in *The Plan* as depicted in Figure I-3. This term applies to civic, conservation and environmental organizations, industry, small businesses, commercial and sport fishermen, developers, boaters, and the public. All of these stakeholders will be affected by *The Plan* and will share responsibility for implementation. The partnership approach to natural resource protection has been emphasized throughout *The Galveston Bay Plan*, and will be even more important in its implementation. Difficult policy and resource allocation decisions will need to be made to move implementation forward. These will require broad support from all stakeholder groups to be successful. The benefits of these efforts will be a cleaner, healthier, more productive bay. Involvement of stakeholders will include:

- Serving on the Galveston Bay Council and providing a voice for ongoing bay management
- Participating in public forums advocating the goals and objectives of *The Galveston Bay Plan*
- Providing input and comments on environmental policies affecting the bay
- Assisting with public outreach and educational efforts
- Contributing funding, volunteer, and in-kind services to support implementation
- Supporting legislative efforts at the federal, state, and local level

### **The Role of the Public**

Public involvement is indispensable to the implementation of *The Galveston Bay Plan* and public support is critical to long-term success. Representatives from environmental and recreational groups, locally-elected officials and industry can help educate the general public and advocate the goals of *The Galveston Bay Plan*. Representatives from local stakeholder groups will be chosen to serve on the Galveston Bay Council. Representation will come from all facets of the populations surrounding Galveston Bay, including low-income and minority communities. This will allow the entire community to participate in the decision-making

process and ensure that the goals, objectives, and actions of *The Galveston Bay Plan* are achieved. Elements of public involvement in implementation include:

- Encouraging federal, state, and local agencies, as well as bay user groups to implement *The Galveston Bay Plan*
- Contributing funds, land, and in-kind services and encouraging receipt of funds from "soft" sources such as grants
- Advocating the regional importance of Galveston Bay and working for passage of necessary state laws and local ordinances to implement *The Plan*
- Working for appropriation of required funds at the federal, state, and local level
- Supporting State-of-the-Bay Symposia as a forum for reporting ongoing research, and for educating and involving the public in the state of the bay
- Creating educational and outreach programs which also involve the media
- Participating in a school educational program that targets children residing in the Galveston Bay watershed
- Providing volunteer opportunities for education and other "Protect-the-Bay" events
- Encouraging pollution reporting through the Citizens Pollution Awareness and Reporting System hotline
- Implementing citizen actions such as improved management of household hazardous wastes, reducing the amount of pesticides and fertilizers used, recycling used motor oil, etc.

## HOW MUCH WILL THE GALVESTON BAY PLAN COST?

### Limitations on Cost Estimates

Cost estimates were prepared for the action plans described in *The Galveston Bay Plan* based on available information and actual costs may be more or less than projected estimates. Estimates are five-year costs. Some future programs are difficult to predict, making cost assessment problematic. Future federal non-point source mandates are likely, for example, and could greatly benefit Galveston Bay. Such programs will benefit from regional coordination by the GBP, but are not included in *Plan* cost estimation. Revision of *The Plan* after five years will result in re-direction of initiatives based on new scientific findings and progress made to resolve bay problems.

Numerous existing programs now address problems or can be re-directed to address significant problems in Galveston Bay—this is an important element of *The Plan*. These programs are identified throughout this document in the specific initiatives. However, the costs of these programs are not paid through *The Plan*, and therefore were not included in the cost estimates. For example, the costs of storm water management programs within the City of Houston currently being undertaken are not included; City of Houston costs for these programs exceed the entire cost of *The Plan*.

Some other bay issues are likely to be addressed in future programs being proposed or developed apart from *The Plan*. If such issues were included in *Plan* costs, controls recommended in the Point Sources of Pollution Action Plan would be responsible for over 95



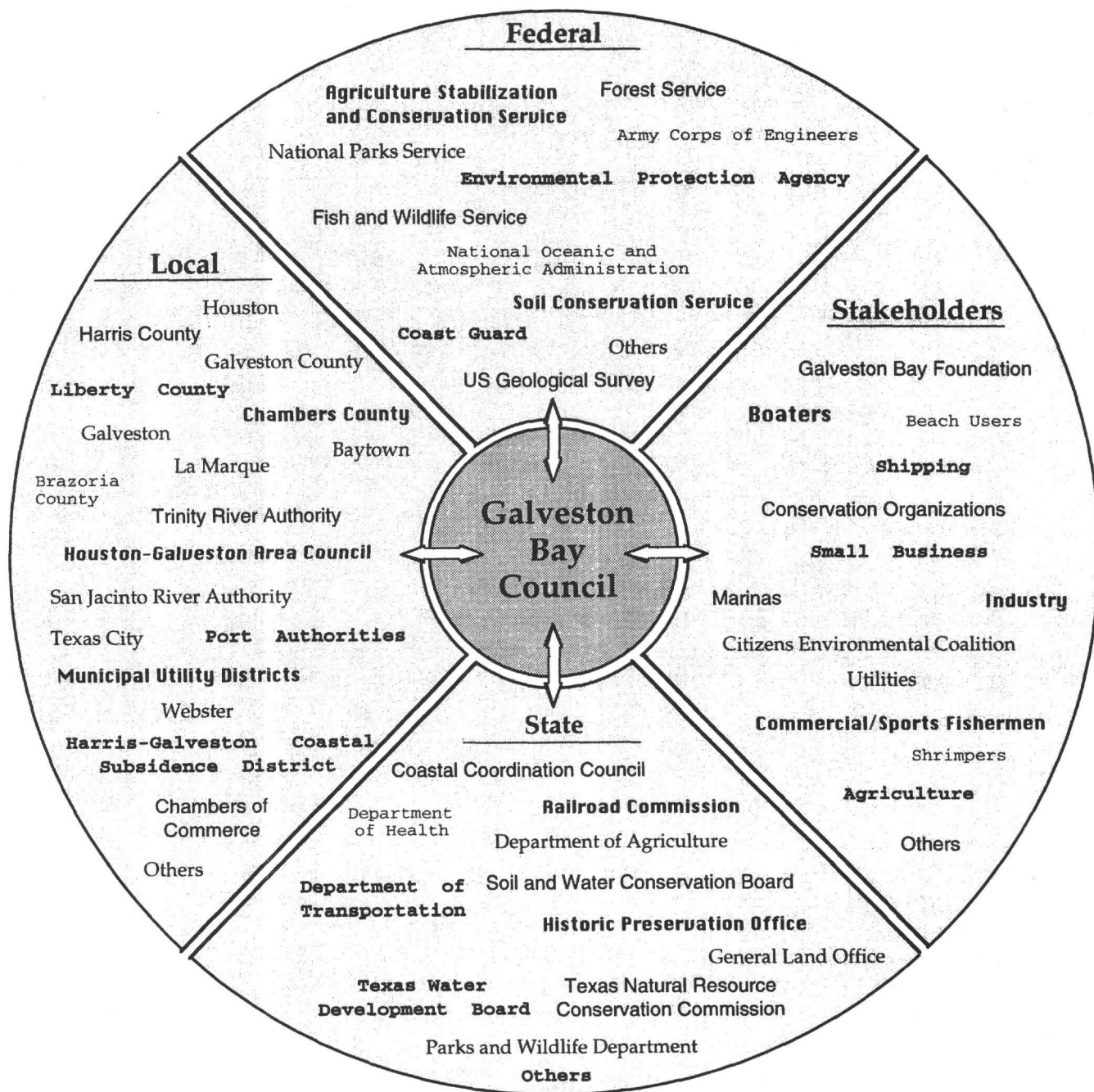


FIGURE I-3. Partners for Implementing *The Galveston Bay Plan*

percent of the total costs of *The Galveston Bay Plan*. The two actions that address municipal overflow and bypass problems (PS-1 and PS-2) are estimated to cost approximately \$1.6 billion. In the City of Houston, these capital projects are already being developed in conjunction with the TNRCC and are not included in the costs of implementing *The Plan*.

Costs associated with the Regional Monitoring Plan and the Data and Information Management Strategy are also not included in the cost estimates. Where monitoring and information management activities have been identified in action plans, cost estimates for those activities have been included in the corresponding action plan. Once *The Plan* becomes final, costs for the overall monitoring and data management strategy can be estimated.

In summary, estimates reported here do *not* include costs associated with the following:

- City of Houston storm water management projects
- Regional Monitoring Plan and Data and Information Management (the nature of these programs can only be determined by the final contents of *The Plan*)
- Bypass/overflow initiatives already ongoing or likely extensions of ongoing work
- Inflation
- Forecast elements for future circumstances

### How Costs Were Estimated

In general, costs were developed using information supplied by the agencies identified with implementation responsibilities. Unit costs were developed by using estimates of the average level of effort required to implement particular activities in each action and are based on "best professional judgment." Information was provided by Texas natural resource agencies for labor requirements needed to perform each selected task. For those activities that could not be estimated using unit costs, information was obtained from the following sources:

- Interviews with agency staff and other individuals familiar with the recommended action
- Analogous projects and programs for which cost data or budget information was available
- Published cost estimates from other similar programs, engineering journals, construction manuals, and other documents

The costs for *The Plan* are of two types. First is the cost of the Galveston Bay Program—including the TNRCC Program Office and Staff, and costs associated with the Galveston Bay Council and other advisory committees. This cost includes match money to attract funds from outside the region for implementation of specific initiatives. The second type of cost is for implementation of *The Plan's* actions which are above and beyond the costs of existing programs that contribute to these initiatives.

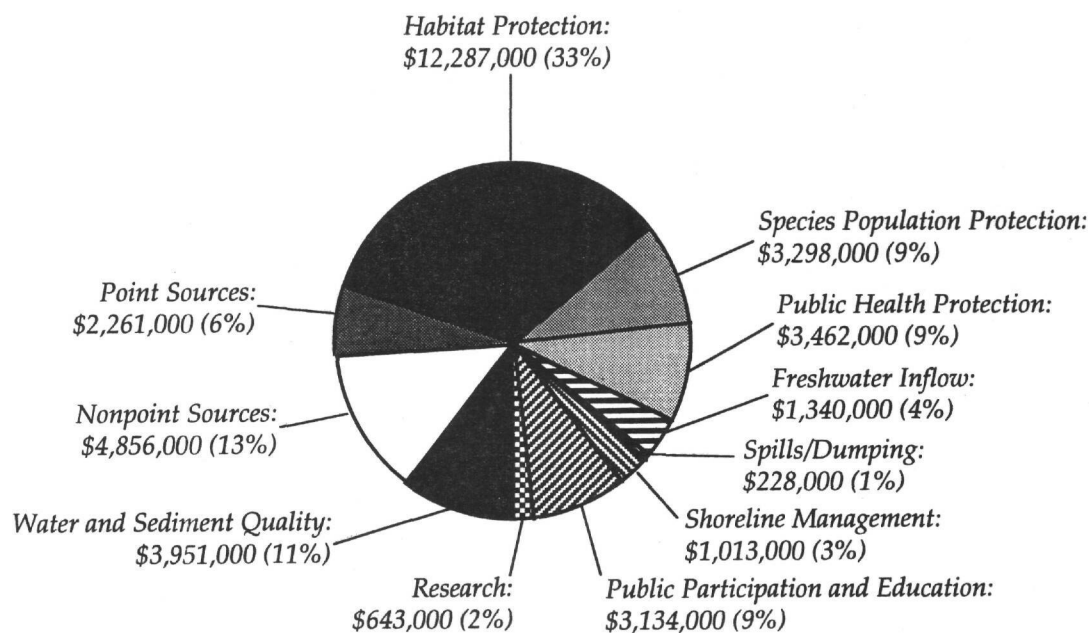
Both types of costs represent "new costs" of implementing *The Plan* and are discussed below. A detailed report providing specific limitations and assumptions for determining the estimated costs of implementing *The Galveston Bay Plan* has been developed in a separate publication.

### Estimated Costs for the Galveston Bay Program

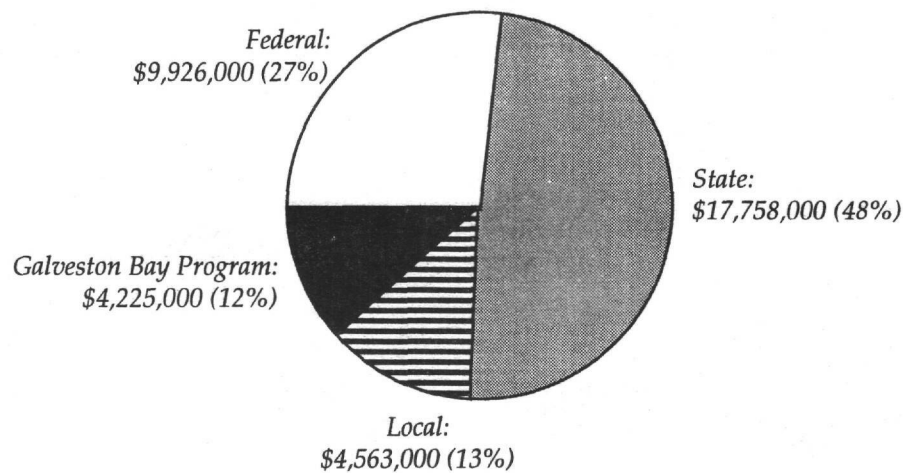
Total Galveston Bay Program (GBP) costs are estimated at \$2.0 million annually. Approximately \$1.0 million per year will be needed for GBP operating expenses. These funds will be used by the GBP to undertake actions identified in *The Plan* as program functions. Included in these costs are establishing and staffing the GBP Office and supporting the Galveston Bay Council (GBC) and other advisory committees. An additional \$1.0 million per year will be needed as match money for grants. This "seed money" can be used to leverage outside funding, for example federal grants, to fund specific initiatives. A funding strategy to acquire the estimated total \$2.0 million per year for the GBP is presented in the "Funding the Galveston Bay Program" section of this document.

### Estimated Costs for Implementing The Galveston Bay Plan Actions

Costs to implement actions in *The Plan* are estimated at \$36.5 million over five years, with variable annual costs averaging \$7.3 million per year (Figures I-4 and I-5). These costs include those to be incurred by federal, state, and local entities as well as the GBP for implementing new actions recommended by *The Plan*. Figure I-5 indicates the proportion of these costs accruing to federal, state, and local entities, and to the GBP (TNRCC costs for The GBP are state costs, but are given their own category for planning purposes). A detailed categorization



**FIGURE I-4. Estimated Five-Year Costs of New Actions Recommended by *The Galveston Bay Plan*, Classified by Type of Action**



**FIGURE I-5. Estimated Five-Year Costs of New Actions Recommended by *The Galveston Bay Plan*, Classified by Who Bears the Cost**

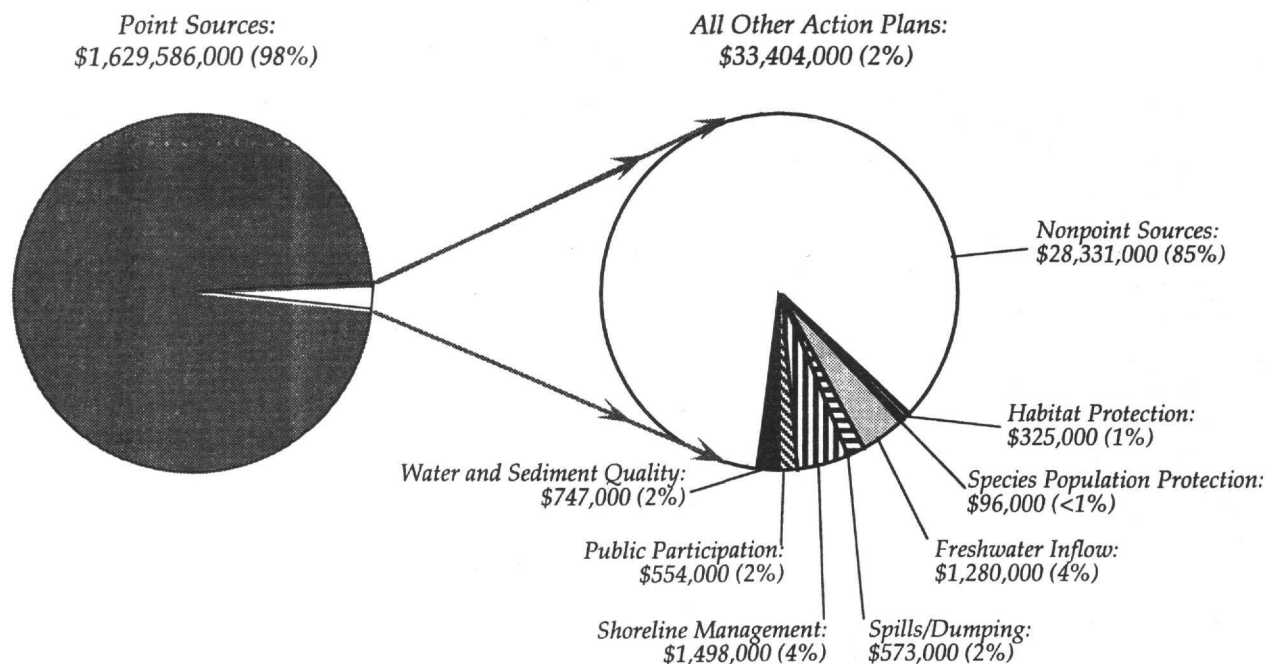
of these costs by implementing organization is presented in Appendix B. How these needs will be funded is considered below in the "Funding New Actions" section of this chapter.

### **How Other Programs Lower the Cost of The Galveston Bay Plan**

Numerous existing and proposed programs will expend funds to benefit Galveston Bay; therefore, these costs do not add to the cost of *The Plan*. In fact, *Plan* costs are small in comparison to the total expenditures in the region on water quality improvement programs. These "Existing and Proposed Programs" are an important part of *The Plan's* bay-wide strategy for stewardship, but are not funded through *The Plan* by virtue of their separate mandates (i.e., they would occur regardless of *The Plan*). An important role of *The Plan* is in coordinating these programs to assure the bay's true most significant problems are addressed. The costs which are included in *The Plan* reflect the fact that water quality improvements funded under these other programs have benefited Galveston Bay. New initiatives can focus on problems such as habitat protection that do not have a successful management history.

Because the work being funded under Existing and Proposed Programs is so important to overall bay management, estimates of their costs were also compiled during drafting of *The Plan*, even though these costs do not contribute to the cost of *The Plan*. Figure I-6 indicates that the estimated five-year costs of these programs total approximately \$1.7 billion, or about fifty times the five-year cost of all new initiatives proposed in *The Plan*.





**FIGURE I-6. Estimated Five-Year Costs for Existing and Proposed Programs Not Funded Under *The Galveston Bay Plan*.**

## FINANCING THE GALVESTON BAY PLAN

As described previously, costs associated with *The Plan* are of two types: maintaining a Galveston Bay Program (TNRCC Program Office, Galveston Bay Council, and related committees); and implementing the actions in *The Plan*. The financing strategy to meet each of these needs is discussed below. Additional information on funding *The Galveston Bay Plan* is provided in *The Galveston Bay Plan Funding Strategy* report.

### Funding The Galveston Bay Program

Section 320 of the Water Quality Act of 1987 authorizes the use of federal funds for a five-year planning process leading to completion of a Comprehensive Conservation and Management Plan (CCMP), here *The Galveston Bay Plan*. These funds are limited to 75 percent of costs; in Texas, the 25 percent required match was supplied as Texas general revenue, appropriated to the TNRCC and expended through that agency to match Section 320 federal funds to carry out the Management Conference activities resulting in this document. Upon completion of a CCMP, the Water Quality Act calls for implementation to be funded by states, but intends for existing federal programs (for example under other sections of the Water Quality Act) to be adopted for coordinated actions under the CCMP.

Funding the GBP will occur primarily with state funds. Of the \$2.0 million annually required for the GBP (\$1.0 million for the Program itself and \$1.0 million seed money to leverage grants and other sources), funding is to consist of \$1.5 million state funds and \$0.5 million federal

funds. State funds are to be appropriated by the Texas Legislature to the TNRCC for establishment of the GBP to implement *The Plan*. Federal funds will be sought as a line item in the federal budget. Alternatively, federal funds could be derived from re-authorization of the Water Quality Act (which could provide for some limited implementation funds) or through an existing federal program such as watershed management activities under Section 104 of the Water Quality Act.

The state-federal funding partnership proved to be advantageous during creation of *The Plan* due to the involvement of programs at many levels of government. The continued partnership of both TNRCC and EPA is equally vital during the coming implementation phase of the program. The continued participation of EPA in the GBP is critical since numerous initiatives in *The Plan* involve federal actions under EPA jurisdiction.

### **Funding Galveston Bay Plan Actions**

The available funding options for implementation of new actions recommended by *The Plan* include federal, state, and private grants and assistance programs. Many of these programs already provide assistance to natural resource agencies in the Galveston Bay region. The GBP will seek funds from a variety of sources to avoid creating a disproportionate financial burden on any one group. Potential sources of revenue for implementation of new actions recommended by *The Plan* are described below. A detailed financial strategy providing specific options for funding the new actions described in *The Galveston Bay Plan* has been developed in a separate publication, *The Galveston Bay Plan Funding Strategy Report*.

#### Grants

Grants will be obtained from major federal assistance programs administered by the National Oceanic and Atmospheric Administration (NOAA), the Environmental Protection Agency (EPA), the U.S. Geological Survey (USGS), the U.S. Fish and Wildlife Service (USFWS), the U.S. Department of Agriculture (USDA), and the U.S. Army Corps of Engineers. The GBP will also "pass through" grant funds to entities responsible for implementing *The Plan's* actions. A survey of grant programs has been completed, indicating this approach is feasible. Generally, these grant programs call for a local funding match ranging from five to 25 percent of the total. The seed money to be allocated for grant matching will allow the GBP to leverage these funds.

#### Contract Operations

The GBP may conduct activities under interlocal contract with other units of government. Contract services for non-profit and private sector entities may be provided by the GBP if the activities are identified in or consistent with *The Plan*. This will allow the GBP to adopt existing agency programs to accomplish the initiatives in *The Plan*.

#### Donations of Property

The GBP may receive donated property from public and private sources for the purposes of habitat preservation, providing public access, or implementing other programs of *The Plan*. The GBP may also transfer such property to appropriate management entities (e.g., state or federal natural resource agencies).

### Private and Non-Profit Sources

Revenue from non-profit foundations that support projects related to environmental conservation may be obtained by the GBP.

## COMMON GOALS FOR THE BAY: CONSISTENCY

Consistency serves as an important tool for the implementation of *The Plan*. Consistency assures that agencies carrying out activities which affect Galveston Bay do not act at cross-purposes to the goals of *The Plan*. Consistency provides a level of authority intermediate between assessments or planning (no authority) and statute (complete authority). The various levels of authority which apply to coastal management are shown in Figure I-7 which shows several current programs for comparison.

The first level of authority, that of undertaking environmental assessments or planning (a critical activity for effective management), requires little or no authority. The Galveston Bay National Estuary Program (GBNEP) as a five-year planning program, was in this category.

Two types of consistency review provide the second and third levels of authority. Federal consistency review under an executive order is the second level. This type of consistency review is prescribed for National Estuary Programs under the Water Quality Act, and applies to federal assistance and other projects. Review of permits is excluded from this process. The third level of authority results from consistency review granted by statute.

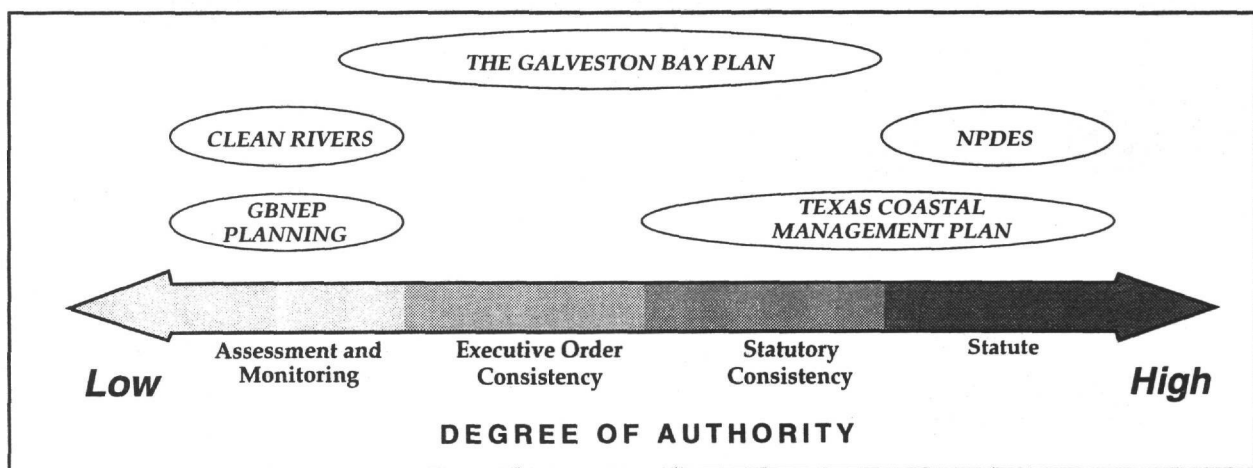


FIGURE I-7. Levels of Authority Applicable to Coastal Management in Texas

At the federal level, the Coastal Zone Management (CZM) Act sets out statutory consistency review for approved CZM programs. At the state level, the 1991 Texas Legislature established similar state agency consistency review for the Coastal Coordination Council and Texas Coastal Management Program (CMP).

Finally, the fourth and highest level of authority is direct regulatory power granted by statute. For example, the Clean Water Act provides this authority to programs such as the National Pollutant Discharge Elimination System (NPDES) for wastewater and stormwater discharge permits. This approach works well for certain well-defined issues such as point source pollution, but does not lend itself as well to complex ecosystem actions affecting many parties.

*The Galveston Bay Plan* will utilize federal and potentially state consistency for an intermediate level of authority. The Galveston Bay Program (GBP) will have no regulatory, rule-making, or taxing powers apart from existing TNRCC authority; neither is it powerless or confined to merely studying the problems. The GBP will conduct consistency reviews of projects to ensure efficient, coordinated implementation of *Plan* actions. Three types of consistency are potentially available for implementing *The Plan*:

- Federal Consistency for National Estuary Programs
- State Consistency under the Texas Coastal Management Program
- Federal Consistency under the Coastal Zone Management Act

The relationships between the types of consistency reviews available to the GBP are presented below.

**TABLE I-2. Consistency Provisions Potentially Applicable to *The Galveston Bay Plan***

Type of Consistency	Authority	Scope
Federal Consistency for National Estuary Programs	Executive Order of the President cited in Section 320 of The Water Quality Act (EPA)	Applies to federal actions affecting NEP initiatives. Is limited to federal financial assistance and development programs; does not apply to permits
State Consistency under the Texas Coastal Management Program	State Statute; final determination by the Coastal Coordination Council	Applies to state agency actions within the coastal area. Is based on enforceable policies, agency rule-making, and "thresholds;" includes state permits
Federal Consistency under the Coastal Zone Management Act	Federal Statute under NOAA; depends upon federal approval of the Texas Coastal Management Program	Applies to federal actions in the coastal zone, including permits; gives states control over federal actions under state coastal management programs

### **Federal Consistency for National Estuary Programs**

Federal consistency review under Section 320 of the Water Quality Act will be carried out by the GBP. Section 320 contains provisions for reviewing all federal financial assistance and development programs to determine whether such programs are consistent with the goals and objectives of *The Galveston Bay Plan*. The GBP will review and comment on federal actions and grants using delegated authority from the GBNEP Management Conference upon approval of *The Plan* by the EPA. The GBP will suggest modifications to those federal programs with activities that are inconsistent with or may jeopardize the effectiveness of *The Plan* (see Figure

I-8). GBP policies and procedures for federal consistency review are described in detail in *The Galveston Bay Plan Federal Consistency Report*.

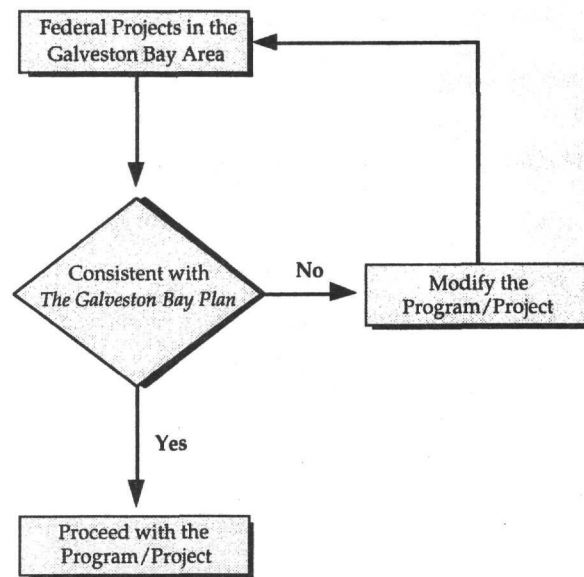


FIGURE I-8. Federal Consistency Review Process Under the National Estuary Program

#### State Consistency Under the Texas Coastal Management Program (CMP)

Development of *The Galveston Bay Plan* has been closely coordinated with the emerging, coast-wide Coastal Management Program (CMP). *The Galveston Bay Plan* could be adopted by the Coastal Coordination Council (CCC) as a Special Area Management Plan (SAMP) under the Coastal Management Program. This would strengthen the CMP for the Galveston Bay region, and could help provide a model for implementation of the CMP in a way that accounts for particular needs of the Galveston Bay region. The GBP could participate in the CMP state consistency review process by providing comments to the CCC on actions subject to the CMP that occur within the GBP's geographic coverage (those actions subject to enforceable policies developed for *The Galveston Bay Plan*). The GBP will receive guidance in the consistency review process by the Galveston Bay Council. The CCC will make the final consistency determination. Note that implementation of *The Galveston Bay Plan* will still occur even if *The Plan* is not adopted as a SAMP.



Final rules have now been approved for the CMP, for implementation in 1995. These rules allow the CCC to adopt enforceable policies for Galveston Bay as a SAMP. Enforceable policies would be: 1) agreed upon by consensus as being appropriate benchmarks for consistency review, and 2) enforceable under existing laws and regulations. Identifying enforceable policies would involve the same public discussion and open deliberation that characterized creation of *The Plan*. Subsequently, the GBP would have three points of influence in the state consistency process:

- Through agency rules. Under the policies of the CCC, state agencies will adopt rules to assure state actions are consistent with the CMP. Such rules could be adopted to assure consistency with elements of *The Galveston Bay Plan*. Most initiatives in *The Galveston Bay Plan* have an identified lead agency.
- Through consistency pre-review. Rules of the CCC establish a pre-review process, whereby the CCC can hear and comment on agency actions in the context of non-binding discussion, in essence to provide an opinion in advance of actual consistency review. Pre-review is triggered only by the request of the state agency undertaking the action at hand.
- Through written/oral comments. When the CCC undertakes consistency review, their meeting for this purpose includes elements similar to a public hearing. Any party can provide comments at such a meeting, including, potentially, a representative of the Galveston Bay Council. The CCC then weighs public testimony prior to their consistency decisions.

### **Federal Consistency Under the Coastal Zone Management Act**

Another mechanism for consistency review by the GBP is provided by the Coastal Zone Management (CZM) Act. Once the CMP has been approved and implemented, Texas may be designated as a federal Coastal Zone Management (CZM) program. If federal CZM status is granted, consistency review would also apply to federal permits and licenses (under CWA consistency, it only applies to federal agency actions and funding assistance programs). This designation would add a powerful implementation tool, since federal permits for discharges of wastewater, stormwater, and dredged materials, among others, would need to be consistent with *The Plan*. However, consistency review for federal permits under CZM is not the sole implementation strategy for any of *The Plan's* actions.

### **Other Program Coordination**

Consultations required by Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas are important implementation activities designed to ensure that actions taken under *The Galveston Bay Plan* do not adversely affect cultural, historical, or archeological resources. In addition, if Texas' Coastal Management Plan is submitted to the National Oceanic and Atmospheric Administration, and approved, then reviews for consistency of *The Galveston Bay Plan* in general, and specific implementation actions in *The Galveston Bay Plan*, with the goals and policies of the Texas Coastal Management Plan, will be necessary to ensure that implementation of *The Galveston Bay Plan* does not adversely affect Coastal Natural Resource Areas.

Under Section 106 of the National Historic Preservation Act, Federal agencies which fund, permit, license, approve, or carry out certain actions in *The Galveston Bay Plan* may be required

to consult the State Historic Preservation Office (in this case the Texas Historical Commission) to determine if a site is listed in, or is eligible for listing in, the National Register of Historic Places (NRHP). If a site is listed, or is eligible for listing, then the action agency must determine, in consultation with the State Historic Preservation Office (Texas Historical Commission), if there is a potential for adverse effects to the site as a result of the proposed action. If the action agency determines that the action will affect sites listed or eligible for listing in the NRHP, the agency will consult with the Texas Historical Commission. Similarly, the Texas Antiquities Code protects State Archeological Landmarks (SALs), through comments and requirements issued by the Texas Historical Commission to State agencies and political subdivisions on the effects of their actions on areas that may contain SALs as well as designated SALs. Because of these requirements, it is the policy of *The Galveston Bay Plan* that Agencies approving, funding, or carrying out actions under *The Plan* consult with the Texas Historical Commission as lawfully required.

As a matter of policy, CCMPs developed under the NEP are to be voluntarily submitted for review under the Federal consistency provisions of Section 307 (c) (1) of the Coastal Zone Management Act of 1972, as amended. However, since Texas does not yet have a federally-approved Coastal Zone Management program, it is not possible to accomplish this at this time. When a federally-approved Coastal Zone Management program is established in Texas, *The Galveston Bay Plan* will be submitted for such review.

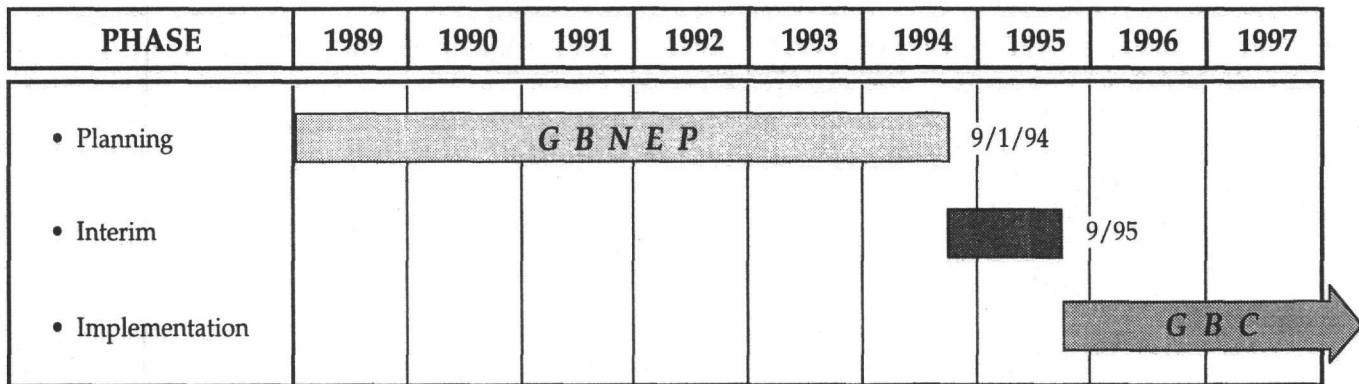
EPA Region 6 has also voluntarily initiated informal consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service under Section 7 of the Endangered Species Act, for EPA's approval of *The Galveston Bay Plan* Under Section 320 of the Clean Water Act. Further, EPA has encouraged the participation of both the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, in the development of *The Galveston Bay Plan*. The Galveston Bay National Estuary Program has benefited from the active participation of both these agencies throughout the development of *The Galveston Bay Plan*.

## TRANSITION FROM PLANNING TO IMPLEMENTATION

The initial GBNEP planning phase ends with final revision of *The Galveston Bay Plan* based on public comments, final approval by the Policy Committee of the GBNEP, and subsequent submittal of *The Plan* to the Governor of Texas and the EPA. EPA has a 180-day review period to evaluate *The Plan* for applicability to the Water Quality Act and consistency with National Estuary Program guidance. When *The Plan* is agreed upon by the Governor of Texas and signed by the Administrator of EPA, implementation can begin. Due to the schedule of the Texas Legislature, however, the GBP will not be fully funded until September, 1995. Fiscal Year 1995 (September 1994 through August 1995) therefore represents a transitional period for the GBP during which the final structure of the Program will be established.

Funding for the transitional period has been requested from the TNRCC and EPA. During the transitional year, GBNEP staffing will remain at approximately its current level. State revenue (\$1.5 million) and federal revenue (\$0.5 million) will be sought by the TNRCC to fund the GBP beginning in September, 1995. At that time, additional staff will be hired and implementation

of *The Plan* will begin, following the implementation schedule put forth in the initiatives. Figure I-9 below illustrates the overall implementation schedule.



**FIGURE I-9. Transition from Planning to Implementation**

Within *The Plan* individual actions have been assigned a priority rank of "High," "Medium," or "Low" based on deliberation by the Management Conference. In assigning these ranks, the Management Conference considered both the costs and probable outcomes of the actions, and made judgments about which were most significant in relation to the bay's documented problems. The assigned rankings will provide a guideline for expenditure of funds during implementation of *The Plan*,